

CLAIMS

1. A device for detecting a frozen image on an active-matrix liquid crystal display screen (12),
5 characterized in that it comprises:
 - a. a photoelectric cell (4) covering a display area (A) of said screen, said cell being capable of delivering an electrical signal representative of luminance in said area;
 - 10 b. control means for displaying a variable pattern (P_{fc}) at a characteristic frequency (f_c) in said display area;
 - c. means for processing an electrical signal ($l(t)$) delivered by said cell, in order to detect said
15 frequency; and
 - d. means for displaying an alarm should said frequency not be detected.
2. The detection device as claimed in claim 1,
20 characterized in that said variable pattern corresponds to an on/off control for the pixel elements in this area (A) at said characteristic frequency (f_c).
- 25 3. The detection device as claimed in claim 1, characterized in that the characteristic frequency (f_c) can be varied.
- 30 4. The detection device as claimed in claim 1 or 2, the matrix being arranged in rows ($G_1, \dots G_n$) and columns ($D_1, \dots D_m$) and driven by a row select driver (20) and a data display or column driver (30), and the drivers comprising shift registers with a plurality of cascaded stages, characterized
35 in that the display area (A) corresponds to the rows and columns of the matrix controlled by the last stages of said shift registers.

5. The detection device as claimed in any one of the preceding claims, characterized in that it comprises a light-emitting diode (LED) as back light source for said display area (A).
- 5 6. The detection device as claimed in claim 1, characterized in that it includes first (4a) and second (4b) cells placed side by side facing said display area (A), one cell operating in low-luminance mode and the other cell operating in high-luminance mode.
- 10 7. The detection device as claimed in 1 or 6, characterized in that the cell or cells (4 or 4a, 4b) are housed in a cavity (7) provided in a corner area (C) of a frame (6) for said screen (12), said corner area overlapping the display area (A).
- 15 8. The detection device as claimed in the preceding claim, characterized in that the frame (6) or at least said corner area (C) of the frame (6) is of the type protected from electromagnetic interference.
- 20 9. The detection device as claimed in any one of claims 1, 6, 7 and 8, characterized in that said means for processing the electrical signal delivered by the cell(s) comprise an amplifier element (9), for amplifying said signal, which is placed as close as possible to the cell(s).
- 25 30 10. The detection device as claimed in claim 9 in combination with claim 7, characterized in that said amplifier element (9) is placed in the cavity (7) in the immediate vicinity of an associated cell (4).
- 35

11. The detection device as claimed in any one of the preceding claims, characterized in that the variable pattern (P_{fc}) to be displayed in said display area (A) is generated by a specific electronic circuit associated with the screen.
5
12. The detection device as claimed in any one of the preceding claims, characterized in that the variable pattern (P_{fc}) to be displayed in said display area (A) is generated by one or more graphics processors (1) that control the images to be displayed on said screen.
10